

REMARKS

In order to expedite the prosecution of the present application and more particularly point out and distinctly claim the subject matter which Applicants regard as the invention, this Request for Continued Examination is being filed with an amended Claim 5 which contains the subject matter of previously presented Claim 6 and limits the ink composition to consisting essentially of an electroless plating activator, water, a viscosity adjuster, a surface tension adjuster and from 0.01 to 100 g/L of an azole-based silane coupling agent for the electroless plating activator. Accordingly, Claim 6 has been canceled. It is respectfully submitted that currently presented Claim 5 clearly is patentably distinguishable over the prior art cited by the Examiner.

As discussed previously, the instant invention provides an ink composition which can uniformly form a wiring pattern having an excellent adhesion on a substrate and was arrived at by the discovery that an ink composition containing an azole-based silane coupling agent as a coupling agent for an electroless plating activator is unexpectedly effective in capturing the activator and adhering it to the substrate when applied by inkjet printing.

JP '479 discloses a method of drawing a wiring pattern on a substrate using an inkjet to apply a composition containing a silane coupling agent to the substrate in a pattern. This reference has no disclosure of an azole-based silane coupling agent being contained therein.

Korea '067 is directed to an electroless metal plating method utilizing a silane-based coupling agent, which can be dissolved in a suitable solvent, applied to a substrate, treated with a noble metal solution and then used in an electroless plating process to provide a metal coating on the substrate.

Applicants have pointed out that JP '479 and Korea '067 have different results from plating with the γ -aminopropyltriethoxysilane. The Examiner has stated that the Example of JP '479 and Comparative Example 3 of Korea '067 are not exactly the same which may affect the results. The Examiner has also argued that the indication that the plating using the γ -aminopropyltriethoxysilane as defective in some cases would provide the motivation to use a different silane as suggested by Korea '067. The Examiner cannot argue that the Example of JP '479 and Comparative Example 3 of Korea '067 are not exactly the same on one hand and then use the disclosures thereof as motivation for amending the process disclosed in JP '479 on the other hand. If the plating methods are different between these two references, it follows that the linkage between these two references are insufficient to motivate one to incorporate the azole-based silane coupling agent of Korea '067 into the ink composition of JP '479. As such, the Examiner is taking self-contradictory positions and making his arguments in favor of the combination of JP '479 with Korea '067 with the support only provided by hindsight gained from the present disclosure.

As discussed above, the newly presented Claim 5 requires that the ink composition consists essentially of an electroless plating activator, water, a viscosity adjuster, a surface tension adjuster and from 0.01 to 100 g/L of an azole-based silane coupling agent as the coupling agent for the electroless plating activator.

In the previous Office Action, Claim 6 was rejected under 35 USC 103(a) as being unpatentable over JP '479 in view of Korea '067, and optionally, further in view of Mardilovich or Furusawa, and further in view of Imori. The Examiner stated that Imori teaches that when pretreating a substrate before electroless plating, it is desirable to provide that the metal pretreatment agent uses a silane coupling agent that has a metal-capturing functional group, using the silane coupling agent to capture a metal and then applying the pretreatment

agent to a substrate to be followed by electroless plating (paragraph [0006]).

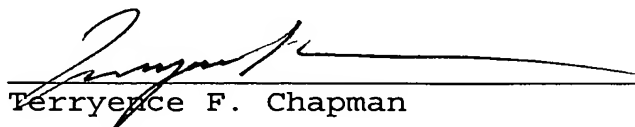
The Examiner also has asserted that it would have been obvious to one of ordinary skill in the art to modify JP '479 in view of Korea '067 and, optionally, further in view of either Mardilovich or Furusawa to provide that the electroless plating activator is actually contained within the ink composition as suggested by Imori, in order to provide a desirably activated surface, because JP '479 in view of Korea '067 and, optionally, further in view of either Mardilovich or Furusawa, teaches inkjet printing an azole-based silane coupling agent containing composition followed by applying electroless activator before electroless plating, and Imori teaches that when providing an azole-based silane coupling agent-containing composition before electroless plating, the electroless activator in the form of palladium chloride can desirably and efficiently be included with the azole-based silane coupling agent-containing composition, in an amount of 0.2 g/L (within the claimed range), including with a silane coupling agent that is a reaction product of imidazole and γ -glycidoxypropyltrimethoxysilane.

However, Imori's disclosure requires the inclusion of a reducing agent, which is expressly excluded from the present invention. In Imori's disclosure, the reducing agent is an indispensable component for the Imori's pretreatment agent to be effective. Therefore, it is not proper to select the use of palladium from Imori's indispensable components and use it for the argument of obviousness in incorporating it into other prior arts. It would be impossible for the person skilled in the art, with a reasonable expectation of success, to combine Imori, JP '479 in view of Korea '067 and, optionally, further in view of Mardilovich or Furusawa to reach the present invention because Imori's pretreatment agent requires the presence of a reducing agent which is excluded from the present invention. Therefore, there is no guarantee that the inclusion of the pretreatment agent of Imori lacking a

reducing agent into JP '479 in view of Korea '067 would have the same effect as the present invention.

For the reasons discussed above, it is respectfully submitted that the presently claimed invention clearly is patentably distinguishable over the prior art cited by the Examiner. Favorable consideration is respectfully solicited.

Respectfully submitted,


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Encl: None

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